

ABSTRACT

Optically active properties are usually possessed by materials that are able to rotate the plane of polarization. Research has been conducted on the study of optically active properties of aquabidest & wash benzene using the lineary polarized light method. This study was conducted with aim of analyzing the active optical properties of wash benzene, analyzing the effect of path length variations on changes in the polarization angle on wash benzene and aquabidest, and analyzing the effect of wavelength variations on changes in polarization angle on wash benzene. The light sources used in thid study were green laser ($\lambda = 532$ nm). Red laser ($\lambda = 650$ nm), and violet laser ($\lambda = 405$ nm). This study was conducted by observing changes in the natural polarization angle in 2 samples, namely aquabidest and wash benzene. In this experiment, the measurement of changes in natural polarization in aquabidest was measured first. Furthermore, measurements of changes in natural polarization were carried out on wash benzene.the results showed that wash benzene had peak points at agles of 40° and 60° . The results of this study prove that the type of light used affects the magnitude of the change in angle ($\Delta\theta$) is obtained, namely for the green laser at the angle of 40° of $0,06^\circ$ and an angle of 60° of $0,058^\circ$, for the red laser at an angle of 40° of $0,084^\circ$ and an angle of 60° of $0,082^\circ$, while for the violet laser at an angle of 40° of $0,036^\circ$ and $0,034^\circ$. This result show that the greater the wavelength and the smaller the energy used, the curve of chage in polarization angle formed will be higher because the refractive index is lower.

Keyword : *polarization, wash benzene, aquabidest, active optical properties*